DECLARATION OF CHRISTIAN L. BELADY
IN ACCORDANCE WITH 37 CFR §1.132

I, Christian L. Belady, hereby declare:

1. I currently reside at 2202 Amherst Circle, Mckinney, Texas 75070

2. I am currently a Principal Scientist of Thermal Technologies in the High Performance Systems Laboratory of Hewlett-Packard in Richardson, Texas. I am a registered professional engineer in the State of Texas, and have the following degrees: BS (Mechanical Engineering), Cornell; MS (Mechanical Engineering), Rensselaer Polytechnic Institute; and MA (Business), University of Texas. I have published several articles, including the following journal publications: Belady, C. and J. Grimmett, "Thermal Analysis of Second Generation FLIR Programs", Texas Instruments Technical Journal, Volume 13, Number 1 (January-February 1996), pp. 64 – 71; Belady, C., "Design Considerations for Air Cooling Electronic Systems in High Altitude Conditions", IEEE Transactions on CPMT - Part A, IEEE (refereed), Volume 19, pp. 495 - 500, ISSN 1070-9886, (December 1996)

3. I am a co-inventor of the invention described and claimed in United States Patent Application Serial No. 10/074,642, filed February 12, 2002 ("Application").

4. I have read and understood the contents of the Final Office Action for this Application, dated November 3, 2003.

5. I have read and understood the references cited by the Examiner in the Final Office Action of November 3, 2003, in particular, United States Patent Number 4,226,281, issued October 7, 1980 to Richard Chu (" Chu").

6. I am familiar with claims 6, 9, 19, which currently remain in the present Application. In particular, I am familiar with twice-amended independent claims 6, 9, 19.

7. Rectangular pins, such as claimed within claim 6, are not supported by Chu. Rectangular pins provide a larger surface area around the perimeter relative to a round pin with the same dimension. For example, if you compare a square pin that is 1mm by 1mm with a round pin with a diameter of 1mm, the actual perimeter contact will be 4mm vs 3.141mm, which provides about 20% more heat transfer area. Accordingly, assuming the same parameters, conduction through the pin body increases by 20% due to the additional heat transfer area. Moreover, the packing density may also be higher, as a matter of design choice.

8. Chu uses a compliant pad 36 (Figure 6, Col. 4, lines 3-19) to act as a spring for pistons 24. Chu does not teach that compliant pad 36 also provides an alternative heat path. In claims 9, 19, a thermally conductive sponge-like element is recited, specifically to provide an alternate heat transfer path. The sponge-like element can also be used as an

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interface pad, as in present claim 19, to enhance heat transfer on the pin head surface, which lowers interface resistance. Again, Chu does not disclose these features, and neither does it suggest, to one skilled in the art, a thermally-conductive pad in a manner consistent with claims 9, 19.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that the statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the Application or any patent issued thereon.

Respectfully submitted,

Dated 2/2/04

Christian L. Belady